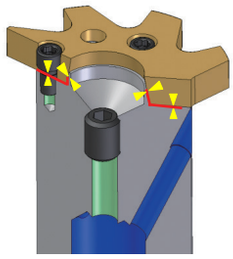
SUMIREAMER
SR Series

Indexable Reamers

- Characteristics
  - Achieves efficiency through high speed, high feeding ability!! (v_C=50 to 200m/min, f =0.4 to 1.0mm/rev)

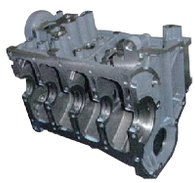
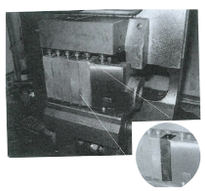
  · Compatibility with a wide range of cutting conditions allows less strict cutting conditions and coolant control
  · Minimal cut edge length design eliminates biting and tearing for improved quality and reliability
  Indexable cut edge design improves reliability of quality and life
  · Cut edge diameters available from ø11.9 to ø140.6 mm

- Easy insert replacement
- Flexible tool overhang lengths possible by combining the modular holder/arbor and holder with correction mechanism
- Can be used as a self-guiding tool with special guide pad holder



Positioning based on HSK taper has two points of contact with radial runout accuracy < 4 µm and face contact guarantees excellent power transmission

■ Application Examples

Tool Type					
Work	 Connection rod	 Engine case	 Universal joint yoke	 Crank case, bearing stage	 Bearing case
Work Material	S50C or equivalent (260 to 310HB)	FC200 (190HB)	CK45 S50C or equivalent	AlMgSi17/ FC200	FCD400
Bore ø (mm)	ø17.017	ø25.159	ø24 F7	ø65 H6	ø32.984
Surface Roughness max Ra/Rz	16	7	10	16	10
No. of Teeth	6	8	8	12	8
Lap Speed v_c (m/min)	250	23	127	120	320
Spindle Speed (min^{-1})	4,683	293	1,685	588	3,100
Feed Rate f_z (mm/t)	0.14	0.085	0.16	0.15	0.20
Feed Rate v_f (mm/min)	3,934	199	2,164	1,058	4,941
Depth of Cut a_p (mm/radius)	0.225	0.15	0.15	0.15	0.15
Wet/ Dry	Emulsion Type	Dry	Emulsion Type	Emulsion Type	MQL
Life, etc	1.25 efficiency	13,000 holes	7,500 pcs	160 pcs	90 Set

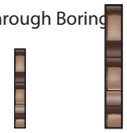
SUMIREAMER
SR Series

■SumiReamer SR Type Configurations

①

Insert

- SRG Type (For Stop/Through Boring)

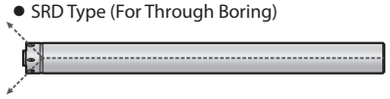


- SRL Type (For Through Boring)

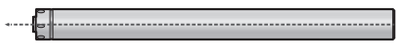
Diameter：φ11.900 to φ140.600mm

Toolholder

- SRD Type (For Through Boring)



- SRB Type (For Stop Boring)

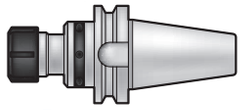


Applicable Diameter Range：φ11.900 to φ35.600mm
Shank Length：100 to 274mm

Insert Run-Out Adjustment Mechanism

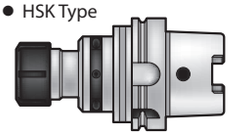
Arbor

- BT/A Type



Taper Size：40 to 50

- HSK Type

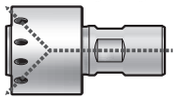


Taper Size：50 to 100

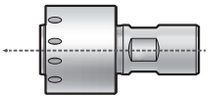
②

Head

- SRKG Type (For Through Boring)



- SRKB Type (For Stop Boring)

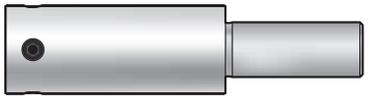


Applicable Diameter Range：φ35.601 to φ140.600mm
Head Length：30 to 60mm

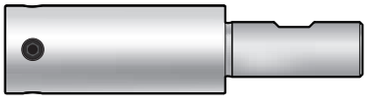
Insert Run-Out Adjustment Mechanism

Shank

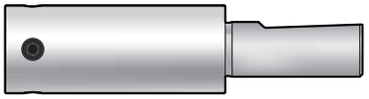
- SRA Type



ZS(Cylindrical Shank) Type : ZS-20/25/32/40



WD(Weldon Shank) Type : WD-20/25/32/40

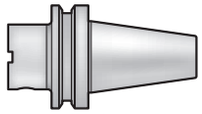


WN(Whistle Notch Shank) Type : WN-20/25/32/40

Applicable Diameter Range：φ35.601 to φ140.600mm
Shank Length：80 to 160mm

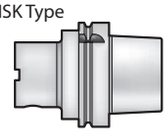
Arbor

- BT/A Type



Taper Size：40 to 50

- HSK Type

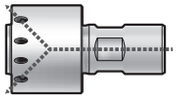


Taper Size：50 to 100

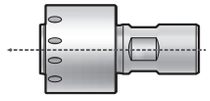
③

Head

- SRKG Type (For Through Boring)



- SRKB Type (For Stop Boring)

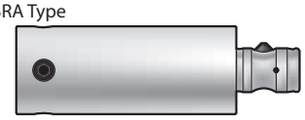


Applicable Diameter Range：φ35.601 to φ140.600mm
Head Length：30 to 60mm

Insert Run-Out Adjustment Mechanism

Shank

- SRA Type



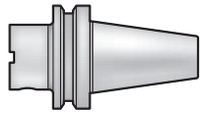
BM(Beta Module Shank) Type : BM-32/40/50/63

Applicable Diameter Range：φ35.601 to φ140.600mm
Shank Length：80 to 160mm

⚠ Check Sizes
When using a BM (Beta Module) type shank, choose a matching standard size.

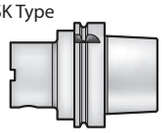
Arbor

- BT/A Type



Taper Size：40 to 50

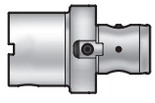
- HSK Type



Taper Size：50 to 100

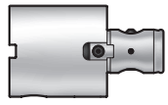
Extensions

- B12 Type



Shank Length：40 to 75mm

- B13 Type



Shank Length：35 to 180mm

Multiple extensions can be connected together
When connecting multiple extensions, it is recommended to consider rigidity and use longer shank sizes so that the total number of extensions is as low as possible.

Sumi Reamer SR Type Insert : SRG Type

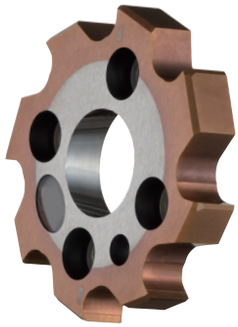
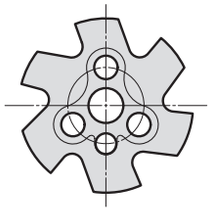


Fig 1



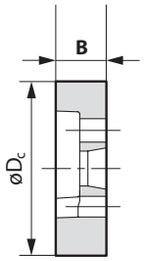
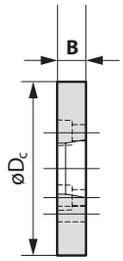
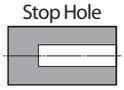


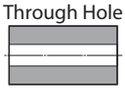
Fig 2



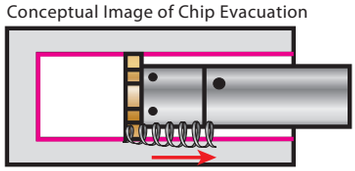
Stop Hole



Through Hole

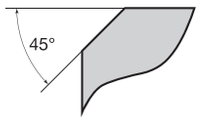


Conceptual Image of Chip Evacuation



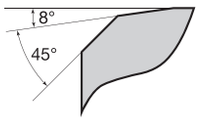
Chips Evacuated Toward Front

A01 Type



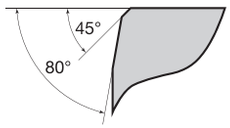
Standard Type

C01 Type



Emphasis on Surface Roughness

S02 Type



Emphasis on Direct Line

SR Type Inserts

■ Japan Stock Items (SRG Type)

Cat. No.	Stock	★iameter ø★c	Tolerance	Thickness B	No. of Teeth
SRG 12.0H7-A01-F0512R1	★	ø12	H7	4.3	6
SRG 13.0H7-A01-F0512R1	★	ø13	H7	4.3	6
SRG 14.0H7-A01-F0512R1	★	ø14	H7	4.3	6
SRG 15.0H7-A01-F0512R1	★	ø15	H7	4.3	6
SRG 16.0H7-A01-F0512R1	★	ø16	H7	4.3	6
SRG 17.0H7-A01-F0512R1	★	ø17	H7	4.3	6
SRG 18.0H7-A01-F0512R1	★	ø18	H7	4.3	6
SRG 19.0H7-A01-F0512R1	★	ø19	H7	4.3	6
SRG 20.0H7-A01-F0512R1	★	ø20	H7	4.3	6
SRG 21.0H7-A01-F0512R1	★	ø21	H7	4.3	6
SRG 22.0H7-A01-F0512R1	★	ø22	H7	4.3	6
SRG 23.0H7-A01-F0512R1	★	ø23	H7	4.3	6
SRG 24.0H7-A01-F0512R1	★	ø24	H7	4.3	8
SRG 25.0H7-A01-F0512R1	★	ø25	H7	4.3	8
SRG 26.0H7-A01-F0512R1	★	ø26	H7	4.3	8
SRG 27.0H7-A01-F0512R1	★	ø27	H7	4.3	8
SRG 28.0H7-A01-F0512R1	★	ø28	H7	4.3	8
SRG 29.0H7-A01-F0512R1	★	ø29	H7	4.3	8
SRG 30.0H7-A01-F0512R1	★	ø30	H7	4.3	8

■ Order Items (Made-to-order)

Diameter Range øD_c	Thickness B	No. of Teeth z	Order Number
ø11.900 to ø15.600	4.3	6	
ø15.601 to ø18.600	4.3	6	
ø18.601 to ø23.600	4.3	6	
ø23.601 to ø28.600	4.3	8	SRG… (See below)
ø28.601 to ø35.600	4.3	8	
ø35.601 to ø43.600	4.3	8	
ø43.601 to ø51.600	4.3	10	or
ø51.601 to ø60.600	4.3	10	
ø60.601 to ø80.600	4.3	12	SRL… (See below)
ø80.601 to ø106.600	4.3	12	
ø106.601 to ø120.600	5.3	12	
ø120.601 to ø140.600	5.3	12	

SRG (Special) and SRL (Special) are made-to-order items.

■ SR Type Reamer Insert Identification

Specifying Inserts Using Work Hole Diameter Tolerance
The actual desired reamer diameter will be on the upper limit side of the median work tolerance, and will differ depending on diameter/tolerance range/grade. Please contact us for details.

SR G 18.2 +20 -10 -A01 M1-F05 12R 1
1 2 3 4 5 6 7 8 9

1. SR Type
2. G = Straight, L = Lefthand helix
3. Work Hole Diameter(mm)
4. Tolerance (µm) +/- or standard (ex. H7)
5. Approach Angle Code
6. Nano Finishing
7. Grade Symbol
8. Coating Code
9. Coating Thickness Code: 1 = Thin, 2 = Thick

Specifying Inserts Using Desired Reamer Diameter
By adding a "Q" after the diameter, it is possible to specify exact desired reamer dimensions. Uncoated types are available within ±2µ, thin-layer coated types within ±3µ, and thick-layer coated types within ±4µ.

SR L 18.2 Q +3 -3 - A01 M1-F05 12R 1
1 2 3 4 5 6 7 8 9

1. SR Type
2. G = Straight, L = Lefthand helix
3. Work Hole Diameter(mm)
4. Tolerance (µm) +/-
5. Approach Angle Code
6. Nano finishing
7. Grade Symbol
8. Coating Code
9. Coating Thickness Code: 1 = Thin, 2 = Thick

SUMIREAMER
SR Series

Sumi Reamer SR Type Insert : SRL Type

Fig 1

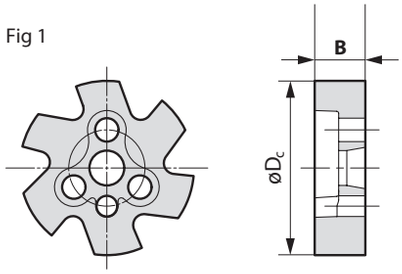
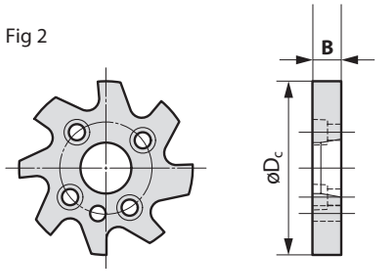
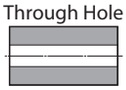


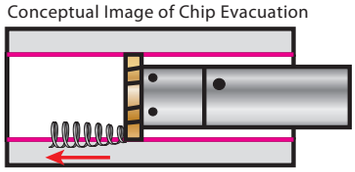
Fig 2



Through Hole

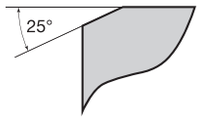


Conceptual Image of Chip Evacuation



Chips Evacuated Toward Back

B01 Type



For Steel Through-Holes

SR Type Inserts

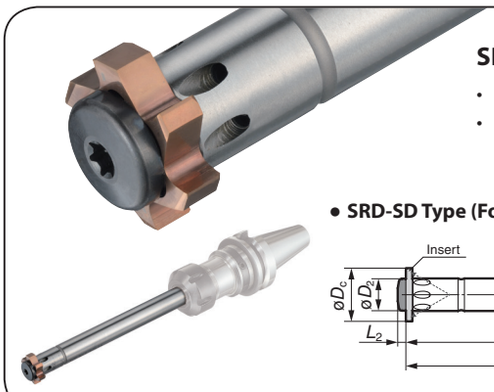
■ Japan Stock Items (SRL Type)

Cat. No.	Stock	★iameter ø★c	Tolerance	Thickness B	No. of Teeth z
SRL 12.0H7-A01-F0512R1	★	ø12	H7	4.3	6
SRL 13.0H7-A01-F0512R1	★	ø13	H7	4.3	6
SRL 14.0H7-A01-F0512R1	★	ø14	H7	4.3	6
SRL 15.0H7-A01-F0512R1	★	ø15	H7	4.3	6
SRL 16.0H7-A01-F0512R1	★	ø16	H7	4.3	6
SRL 17.0H7-A01-F0512R1	★	ø17	H7	4.3	6
SRL 18.0H7-A01-F0512R1	★	ø18	H7	4.3	6
SRL 19.0H7-A01-F0512R1	★	ø19	H7	4.3	6
SRL 20.0H7-A01-F0512R1	★	ø20	H7	4.3	6
SRL 21.0H7-A01-F0512R1	★	ø21	H7	4.3	6
SRL 22.0H7-A01-F0512R1	★	ø22	H7	4.3	6
SRL 23.0H7-A01-F0512R1	★	ø23	H7	4.3	6
SRL 24.0H7-A01-F0512R1	★	ø24	H7	4.3	8
SRL 25.0H7-A01-F0512R1	★	ø25	H7	4.3	8
SRL 26.0H7-A01-F0512R1	★	ø26	H7	4.3	8
SRL 27.0H7-A01-F0512R1	★	ø27	H7	4.3	8
SRL 28.0H7-A01-F0512R1	★	ø28	H7	4.3	8
SRL 29.0H7-A01-F0512R1	★	ø29	H7	4.3	8
SRL 30.0H7-A01-F0512R1	★	ø30	H7	4.3	8

■ Recommended Cutting Conditions

(Min. - Max.)

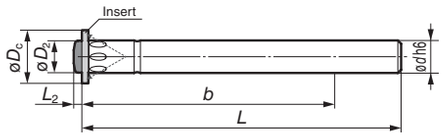
ISO	Work Material	Helix	Adopted Grades	Grade	Depth of Cut a_p (mm/radius)			Cutting Speed v_c (m/min)	Feed Rate f_z (mm/t)
					Below ø20	ø20 to ø35	ø35 or more		
P	Carbon Steel	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	80 to 220	0.10 to 0.25
		L (Lefthand Helix)			0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	100 to 220	0.15 to 0.35
		G (Straight)	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	120 to 250	0.10 to 0.25
		L (Lefthand Helix)			0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	120 to 250	0.15 to 0.35
	Aloy Steel	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	60 to 180	0.06 to 0.20
		L (Lefthand Helix)			0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	60 to 180	0.10 to 0.22
		G (Straight)	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	70 to 200	0.08 to 0.20
		L (Lefthand Helix)			0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	70 to 200	0.12 to 0.25
	Die Steel	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.10 to 0.20	15 to 60	0.06 to 0.20
	Tool Steels	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.10 to 0.20	15 to 30	0.04 to 0.15
M	Stainless Steel	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.08 to 0.20	15 to 60	0.06 to 0.20
K	Cast Iron	G (Straight)	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.18	0.08 to 0.20	0.10 to 0.25	80 to 250	0.10 to 0.30
N	Non-Ferrous Metal	G (Straight)	F0510C	Micro-Fine Grained Carbide + DLC	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	100 to 250	0.10 to 0.30



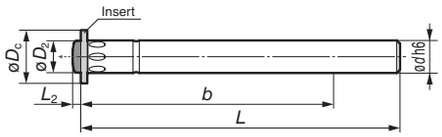
SD Type (Center Bolt Clamp Type)

- Can be clamped using one center bolt to improve work efficiency
- Applicable to high-torque (high-load) machining

● **SRD-SD Type (For Through Boring)**



● **SRB-SD Type (For Stop Boring)**



Steel Shank Toolholder SRD-SD/SRB-SD Series (Center Bolt Clamp Type)

■ Spare Parts

Diameter øDc Range		Cat. No. SRD Type (For Through Boring)	Stock	Cat. No. SRB Type (For Stop Boring)	Stock	Dimensions(mm) ød	L	b	øD2	L2	Cap Screw (For SRD)	Cap Screw (For SRB)	Wrench
Short	ø11.900 to ø15.600	SRD 16-10-100SD		SRB 16-10-100SD		10	100	60	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	ø15.601 to ø18.600	19-12-115SD		19-12-115SD		12	115	70	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	ø18.601 to ø23.600	24-16-128SD		24-16-128SD		16	128	80	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	ø23.601 to ø28.600	29-20-145SD		29-20-145SD		20	145	95	15.8	4.0			
	ø28.601 to ø35.600	36-25-170SD		36-25-170SD		25	170	120	24.5	4.0	C00-90-25	C00-90-25B	
Long	ø11.900 to ø15.600	SRD 16-10-160SD		SRB 16-10-160SD		10	160	120	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	ø15.601 to ø18.600	19-12-185SD		19-12-185SD		12	185	140	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	ø18.601 to ø23.600	24-16-208SD		24-16-208SD		16	208	160	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	ø23.601 to ø28.600	29-20-240SD		29-20-240SD		20	240	190	15.8	4.0			
	ø28.601 to ø35.600	36-25-274SD		36-25-274SD		25	274	224	24.5	4.0	C00-90-25	C00-90-25B	

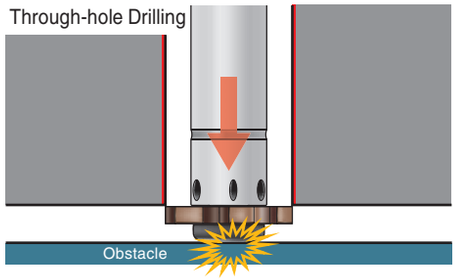
Carbide Shank Toolholder SRD-SD/SRB-SD Series (Center Bolt Clamp Type)

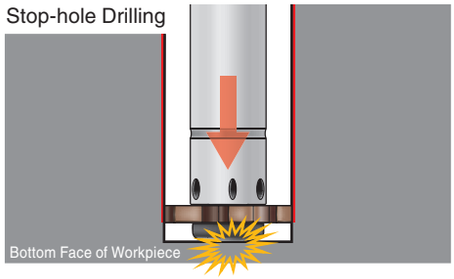
■ Spare Parts

Diameter øDc Range		Cat. No. SRD Type (For Through Boring)	Stock	Cat. No. SRB Type (For Stop Boring)	Stock	Dimensions(mm) ød	L	b	øD2	L2	Cap Screw (For SRD)	Cap Screw (For SRB)	Wrench
Long	ø11.900 to ø15.600	SRD 16-10-160HMSD		SRB 16-10-160HMSD		10	160	120	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	ø15.601 to ø18.600	19-12-185HMSD		19-12-185HMSD		12	185	140	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	ø18.601 to ø23.600	24-16-208HMSD		24-16-208HMSD		16	208	160	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	ø23.601 to ø28.600	29-20-240HMSD		29-20-240HMSD		20	240	190	15.8	4.0			
	ø28.601 to ø35.600	36-25-274HMSD		36-25-274HMSD		25	274	224	24.5	4.0	C00-90-25	C00-90-25B	

Important Notes About SD Type (Center Bolt Clamp Type)

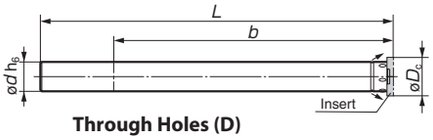
This product can be used for both through-hole and Blind-hole drilling. However, the head of the center bolt protrudes from the end of the body. Therefore, ensure clearance by referring to the protrusion amount of the center bolt (L_2) shown in the dimension table.



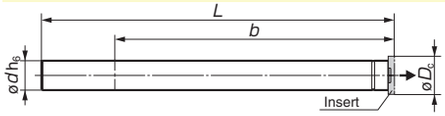


SUMIREAMER
SR Series

■ Insert Holder



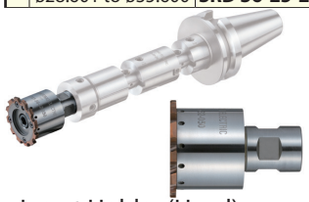
Through Holes (D)



Stop Hole (B)

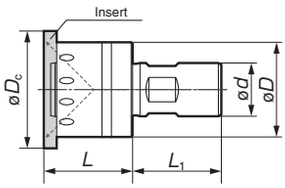
■ Spare Parts

	Reamer Diameter øDc Range	Cat. No. Through Holes (D) Cat. No.	Stock	Stop Hole (B) Cat. No.	Stock	Carbide Shank SRD Type Cat. No.	Stock	Carbide Shank SRB Type Cat. No.	Stock	Dimensions ød h6	L	b	Cap Screw	Wrench
Short	ø11.900 to ø15.600	**SRD 16-10-100**	★	**SRB 16-10-100**	★					10	100	60	C00-90-00-(3x)	G00-20-01
Short	ø15.601 to ø18.600	**SRD 19-12-115**	★	**SRB 19-12-115**	★					12	115	70	C00-90-00-(3x)	G00-20-01
Short	ø18.601 to ø23.600	**SRD 24-16-128**	★	**SRB 24-16-128**	★					16	128	80	C00-90-01-(3x)	G00-20-02
Short	ø23.601 to ø28.600	**SRD 29-20-145**	★	**SRB 29-20-145**	★					20	145	95	C00-90-01-(4x)	G00-20-02
Short	ø28.601 to ø35.600	**SRD 36-25-170**	★	**SRB 36-25-170**	★					25	170	120	C00-90-01-(4x)	G00-20-02
Long	ø11.900 to ø15.600	**SRD 16-10-160**		**SRB 16-10-160**		**SRD 16-10-160HM**		**SRB 16-10-160HM**		10	160	120	C00-90-00-(3x)	G00-20-01
Long	ø15.601 to ø18.600	**SRD 19-12-185**		**SRB 19-12-185**		**SRD 19-12-185HM**		**SRB 19-12-185HM**		12	185	140	C00-90-00-(3x)	G00-20-01
Long	ø18.601 to ø23.600	**SRD 24-16-208**		**SRB 24-16-208**		**SRD 24-16-208HM**		**SRB 24-16-208HM**		16	208	160	C00-90-01-(3x)	G00-20-02
Long	ø23.601 to ø28.600	**SRD 29-20-240**		**SRB 29-20-240**		**SRD 29-20-240HM**		**SRB 29-20-240HM**		20	240	190	C00-90-01-(4x)	G00-20-02
Long	ø28.601 to ø35.600	**SRD 36-25-274**		**SRB 36-25-274**		**SRD 36-25-274HM**		**SRB 36-25-274HM**		25	274	224	C00-90-01-(4x)	G00-20-02

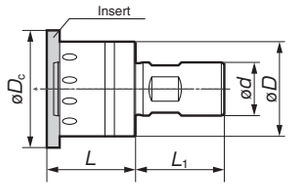


■ SRK Type

SRKG Type (For Through Boring)



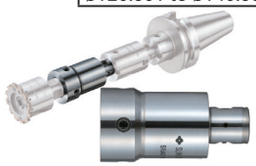
SRKB Type (For Stop Boring)



■ Insert Holder (Head)

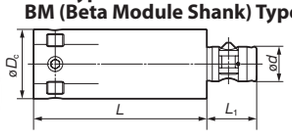
■ Spare Parts

Reamer Diameter øDc Range	Cat. No. SKRG Type Cat. No.	Stock	SRKB Type Cat. No.	Stock	Dimensions D	d	L	L1	Cap Screw (1)	Wrench (2)	Cap Screw (3)	Wrench (4)
ø35.601 to ø43.600	**SRKG 44-32-18-030**		**SRKB 44-32-18-030**		32	18	30	30	C00-90-02-(4x)	G00-20-02	C00-26-23	G00-02-07
ø43.601 to ø51.600	**SRKG 52-39-20-035**		**SRKB 52-39-20-035**		39	20	35	30	C00-90-02-(5x)	G00-20-02	C00-26-38	G00-02-07
ø51.601 to ø60.600	**SRKG 61-46-25-040**		**SRKB 61-46-25-040**		46	25	40	35	C00-90-02-(5x)	G00-20-02	C00-24-26	G00-02-08
ø60.601 to ø80.600	**SRKG 81-56-32-050**		**SRKB 81-56-32-050**		56	32	50	40	C00-90-04-(4x)	G00-20-03	C00-26-37	G00-02-09
ø80.601 to ø100.600	**SRKG 101-76-40-060**		**SRKB 101-76-40-060**		76	40	60	50	C00-90-04-(4x)	G00-20-03	C00-24-31	G00-02-16
ø100.601 to ø120.600	**SKRG 121-76-40-060**		**SKRB 121-76-40-060**		76	40	60	50	C00-90-04-(4x)	G00-20-03	C00-24-31	G00-02-16
ø120.601 to ø140.600	**SKRG 121-76-40-060**		**SKRB 121-76-40-060**		76	40	60	50	C00-90-04-(4x)	G00-20-03	C00-24-31	G00-02-16

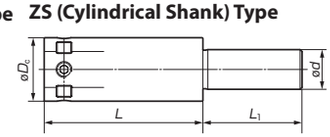


■ SRA Type

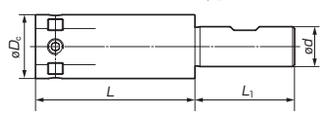
BM (Beta Module Shank) Type



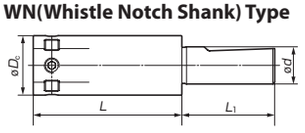
ZS (Cylindrical Shank) Type



WD (Weldon Shank) Type



WN(Whistle Notch Shank) Type



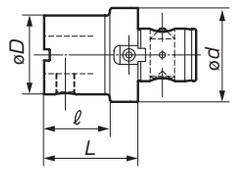
■ Holder (with diameter correction mechanism)

■ Spare Parts

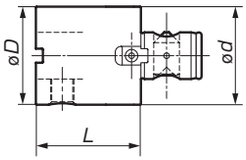
Reamer Diameter øDc Range	Cat. No. Through Holes (D) Cat. No.	Stock	D	d	L	L1	Cap Screw (1)	Wrench (2)	Clamp (3)	Screw (4)
ø35.601 to ø43.600	**SRA 44-32-BM32-080**		32	BM-32	80	8.5	C00-90-08-(4x)	G00-02-05	Z00-32-21	Z00-32-23
	SRA 44-32-ZS20-080			ZS-20		50				
	SRA 44-32-WD20-080			WD-20						
	SRA 44-32-WN20-080			WN-20						
ø43.601 to ø51.600	**SRA 52-39-BM40-100**		39	BM-40	100	26	C00-90-10-(4x)	G00-02-06	Z00-40-21	Z00-40-23
	SRA 52-39-ZS25-100			ZS-25		56				
	SRA 52-39-WD25-100			WD-25						
	SRA 52-39-WN25-100			WN-25						
ø51.601 to ø60.600	**SRA 61-46-BM50-120**		46	BM-50	120	31	C00-90-10-(4x)	G00-02-06	Z00-50-21	Z00-50-23
	SRA 61-46-ZS32-120			ZS-32		60				
	SRA 61-46-WD32-120			WD-32						
	SRA 61-46-WN32-120			WN-32						
ø60.601 to ø80.600	**SRA 81-56-BM50-140**		56	BM-50	140	31	C00-90-12-(4x)	G00-02-07	Z00-50-21	Z00- 50-23
	SRA 81-56-BM50-080				80					
	SRA 81-56-ZS40-140			ZS-40	140	70				
	SRA 81-56-ZS40-080				80					
	SRA 81-56-WD40-140			WD-40	140					
	SRA 81-56-WD40-080				80					
	SRA 81-56-WN40-140			WN-40	140					
	SRA 81-56-WN40-080				80					
ø80.601 to ø140.600	**SRA 101-76-BM63-160**		76	BM-63	160	31	C00-90-16-(4x)	G00-02-08	Z00-63-21	Z00-63-23
	SRA 101-76-BM63-100				100					
	SRA 101-76-ZS40-100			ZS-40	160	70				
	SRA 101-76-ZS40-160				100					
	SRA 101-76-WD40-160			WD-40	160					
	SRA 101-76-WD40-100				100					
	SRA 101-76-WN40-160			WN-40	160					
	SRA 101-76-WN40-100				100					

Indexable Reamers

■ B12 Type



■ B13 Type



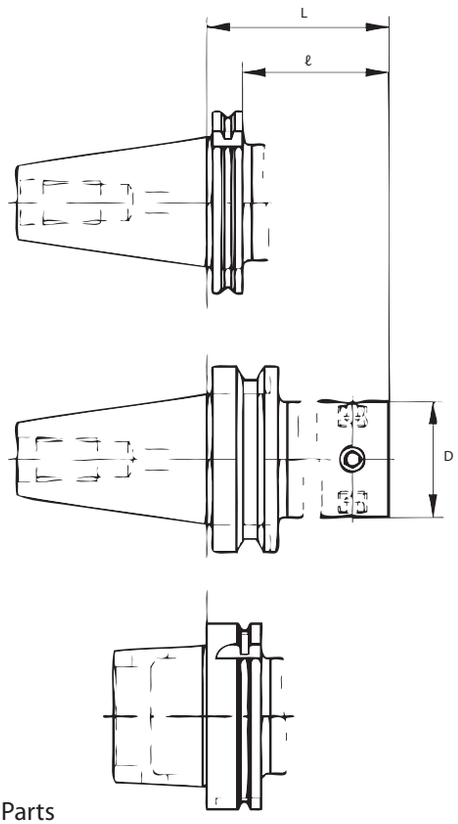
■ Extensions

Cat. No.	øD	ød	L	l	Weight (kg)
B12-32-25-040	**25**	32	40	25	0.2
B12-40-25-040	**25**	42	40	25	0.3
32-045	**32**	42	45	30	0.3
B12-50-40-050	**42**	50	50	35	0.5
B12-63-25-045	**25**	63	45	25	0.7
32-050	**32**	63	50	30	0.9
40-055	**42**	63	55	35	1.1
B12-80-40-060	**42**	80	60	35	2.2
63-060	**63**	80	60	35	2.4
B12-100-40-060	**42**	100	60	35	3.1
63-060	**63**	100	60	35	3.3
80-075	**80**	100	75	50	3.5

Cat. No.	øD	ød	L	l	Weight (kg)
B13-25-25-045	**25**	25	45	–	0.2
070	**25**	25	70	–	0.3
B13-32-32-035	**32**	32	35	–	0.2
070	**32**	32	70	–	0.4
B13-40-40-045	**42**	42	45	–	0.4
070	**42**	42	70	–	0.7
B13-50-50-065	**50**	50	65	–	1.0
100	**50**	50	100	–	1.5
B13-63-63-060	**63**	63	60	–	1.3
125	**63**	63	125	–	2.9
B13-80-80-080	**80**	80	80	–	2.9
160	**80**	80	160	–	4.9
B13-100-100-080	**100**	100	80	–	4.9
180	**100**	100	180	–	10.9

■ **Adapters**

Adapters	SR Parameter	◁	D	L	ℓ	kg	Product Code
DIN69871-A/D	**SR044**	40	32	65	46	1.1	SRAD10 40A 44 065
	SR052	40	39	65	46	1.2	SRAD10 40A 52 065
	SR061	40	46	75	56	1.4	SRAD10 40A 61 075
	SR081	40	56	80	61	1.6	SRAD10 40A 81 080
	SR101-SR141	40	76	95	76	2.2	SRAD10 40A 101 095
	SR044	50	32	65	46	2.9	SRAD10 50A 44 065
	SR052	50	39	65	46	3	SRAD10 50A 52 065
	SR061	50	46	75	56	3.2	SRAD10 50A 61 075
	SR081	50	56	80	61	3.6	SRAD10 50A 81 080
	SR101-SR142	50	76	95	76	4.6	SRAD10 50A 101 095
DIN69871-B	**SR044**	40	32	65	46	1.1	SRAD10 40B 44 065
	SR052	40	39	65	46	1.2	SRAD10 40B 52 065
	SR061	40	46	75	56	1.4	SRAD10 40B 61 075
	SR081	40	56	80	61	1.6	SRAD10 40B 81 080
	SR101-SR142	40	76	95	76	2.2	SRAD10 40B 101 095
	SR044	50	32	65	46	2.9	SRAD10 50B 44 065
	SR052	50	39	65	46	3	SRAD10 50B 52 065
	SR061	50	46	75	56	3.2	SRAD10 50B 61 075
	SR081	50	56	80	61	3.6	SRAD10 50B 81 080
	SR101-SR143	50	76	95	76	4.6	SRAD10 50B 101 095
MAS-BT/A	**SR044**	40	32	65	33	1.1	SRAT10 40A 44 060
	SR052	40	39	65	38	1.3	SRAT10 40A 52 065
	SR061	40	46	75	43	1.4	SRAT10 40A 61 070
	SR081	40	56	80	53	1.7	SRAT10 40A 81 080
	SR101-SR143	40	76	95	-	2.5	SRAT10 40A 101 095
	SR044	50	32	65	27	3.7	SRAT10 50A 44 060
	SR052	50	39	65	27	3.8	SRAT10 50A 52 065
	SR061	50	46	75	37	4	SRAT10 50A 61 070
	SR081	50	56	80	47	4.3	SRAT10 50A 81 080
	SR101-SR144	50	76	95	57	5.1	SRAT10 50A 101 095
DIN698893-HSK-A	**SR044**	63	32	85	59	1	SRAH10 63A 44 085
	SR052	63	39	90	64	1.2	SRAH10 63A 52 090
	SR061	63	46	100	74	1.5	SRAH10 63A 61 100
	SR081	63	56	105	79	1.8	SRAH10 63A 81 105
	SR101-SR144	63	76	120	94	2.4	SRAH10 63A 101 120
	SR044	100	32	85	61	2.3	SRAH10 100A 44 090
	SR052	100	39	90	66	2.6	SRAH10 100A 52 095
	SR061	100	46	100	71	2.8	SRAH10 100A 61 100
	SR081	100	56	105	91	3.5	SRAH10 100A 81 120
	SR101-SR142	100	76	120	101	5	SRAH10 100A 101 130

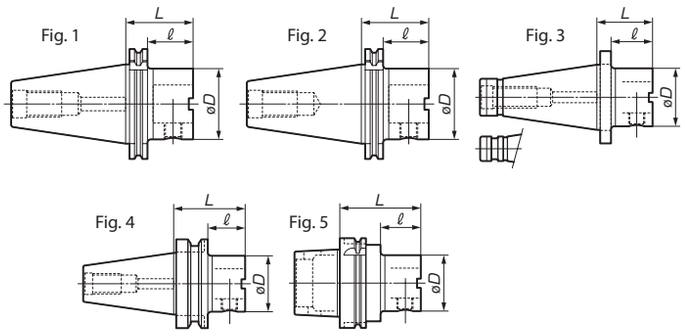


■ Spare Parts

SR Parameter	Screw	Wrench
SR044	C00 90 08 (4x)	G00 02 05
SR052	C00 90 10 (4x)	G00 02 06
SR061	C00 90 10 (4x)	G00 02 06
SR081	C00 90 12 (4x)	G00 02 07
SR101 - SR141	C00 90 16 (4x)	G00 02 08

SUMIREAMER
SR SERIES

■ Arbor BETA Module



■ DIN 69871-A/D

Cat. No.	Stock	BETA No.	Taper Size	L	ℓ	D	kg	MCC	Fig.
BD10-40A-25-050		25	40	50	31	25	0.8	B25	1
BD10-40A-32-050		32	40	50	31	35	0.9	B32	
BD10-40A-40-035		40	40	35	16	42	0.9	B40	
BD10-40A-40-050		40	40	50	31	42	1.1	B40	
BD10-40A-63-065		63	40	65	46	63	1.5	B63	
BD10-40A-50-050		50	40	50	31	50	1.2	B50	
BD10-40A-63-090		63	40	90	70	63	2.0	B63	
BD10-50A-25-060		25	50	60	41	25	2.8	B25	
BD10-50A-32-060		32	50	60	41	32	2.9	B32	
BD10-50A-40-060		40	50	60	41	42	3.0	B40	
BD10-50A-50-060		50	50	60	41	50	3.2	B50	
BD10-50A-63-060		63	50	60	41	63	3.3	B63	
BD10-50A-80-070		80	50	70	51	80	4.0	B80	
BD10-50A-100-115		100	50	115	96	100	6.9	B100	

■ MAS-BT/A

Cat. No.	Stock	BETA No.	Taper Size	L	ℓ	D	kg	MCC	Fig.
BT10-40A-25-060		25	40	60	33	25	0.8	B25	4
BT10-40A-32-060		32	40	60	33	32	0.9	B32	
BT10-40A-40-028		40	40	28	1	42	0.9	B40	
BT10-40A-40-060		40	40	60	33	42	1.2	B40	
BT10-40A-50-060		50	40	60	33	50	1.3	B50	
BT10-40A-63-055		63	40	55	28	63	1.4	B63	
BT10-40A-63-070		63	40	70	43	63	1.7	B63	
BT10-50A-32-070		32	50	70	32	32	3.7	B32	
BT10-50A-40-070		40	50	70	32	42	3.9	B40	
BT10-50A-50-070		50	50	70	32	50	4.1	B50	
BT10-50A-63-080		63	50	80	42	63	4.3	B63	
BT10-50A-80-100		80	50	100	62	80	5.5	B80	
BT10-50A-100-110		100	50	110	72	100	7.0	B100	

■ DIN 69871-B

Cat. No.	Stock	BETA No.	Taper Size	L	ℓ	D	kg	MCC	Fig.
BD10-40B-25-050		25	40	50	31	25	0.8	B25	2
BD10-40B-32-050		32	40	50	31	35	0.9	B32	
BD10-40B-40-035		40	40	35	16	42	0.9	B40	
BD10-40B-40-050		40	40	50	31	42	1.1	B40	
BD10-40B-50-065		50	40	50	31	50	1.2	B50	
BD10-40B-63-050		63	40	65	46	63	1.5	B63	
BD10-40B-63-090		63	40	90	70	63	2.0	B63	
BD10-50B-25-060		25	50	60	41	25	2.8	B25	
BD10-50B-32-060		32	50	60	41	32	2.9	B32	
BD10-50B-40-060		40	50	60	41	42	3.0	B40	
BD10-50B-50-060		50	50	60	41	50	3.2	B50	
BD10-50B-63-060		63	50	60	41	63	3.3	B63	
BD10-50B-80-070		80	50	70	51	80	4.0	B80	
BD10-50B-100-115		100	50	115	96	100	6.9	B100	

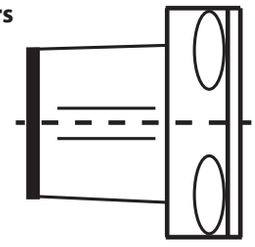
■ DIN 69893-A HSK (Coolant tube sold separately.)

Cat. No.	Stock	BETA No.	Taper Size	L	ℓ	D	kg	MCC	Fig.
BH10-50A-25-055		25	50	55	29	25	0.5	B25	5
BH10-50A-32-060		32	50	60	34	32	0.6	B32	
BH10-50A-40-065		40	50	65	39	42	0.7	B40	
BH10-63A-25-055		25	63	55	29	25	0.9	B25	
BH10-63A-32-060		32	63	60	34	32	1.0	B32	
BH10-63A-40-065		40	63	65	23	42	1.1	B40	
BH10-63A-50-070		50	63	70	44	50	1.5	B50	
BH10-63A-63-080		63	63	80	38	63	1.5	B63	
BH10-100A-40-080		40	100	80	35	42	2.3	B40	
BH10-100A-50-080		50	100	80	35	50	2.5	B50	
BH10-100A-63-080		63	100	80	35	63	2.8	B63	
BH10-100A-80-090		80	100	90	45	80	3.8	B80	
BH10-100A-100-100		100	100	100	55	100	4.0	B100	

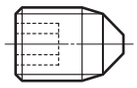
■ ISO-DIN 2080

Cat. No.	Stock	BETA No.	Taper Size	L	ℓ	D	kg	MCC	Fig.
BI10-40-40-035		40	40	35	23	42	0.7	B40	3
BI10-40-40-050		40	40	50	38	42	1.1	B40	
BI10-40-63-070		63	40	70	58	63	1.8	B63	
BI10-50-40-060		40	50	60	45	42	3.0	B40	
BI10-50-63-060		63	50	60	45	63	3.5	B63	
BI10-50-100-100		100	85	100	85	100	6.8	B100	

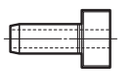
Polygon Shank Holders



■ Spare Parts

Clamp BETA No.	
25	Z00-25-24
32	Z00-32-24
40	Z00-40-24
63	Z00-63-24
80	Z00-80-24
100	Z00-100-24

■ Coolant Tubes

Taper Size	
50	H00-50-01
63	H00-63-01
100	H00-100-01

■ Polygon Shank Hydraulic Holders

Style	Stock	d	L	kg
PSC4O		ø12	81	0.7
PSC4O		ø20	-	-
PSC4O		ø32	-	-
PSC5O		ø12	85	0.9
PSC5O		ø20	90	1.05
PSC5O		ø32	-	-
PSC63		ø12	87	1.3
PSC63		ø20	97	1.6
PSC63		ø32	110	2.8

All Polygon Shank Holders available upon request

Fig. 1

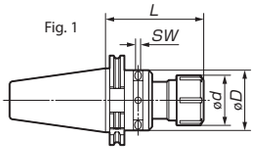


Fig. 2

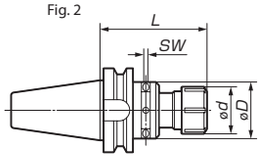


Fig. 3

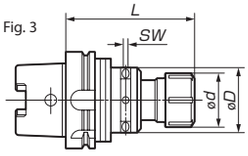


Fig. 1

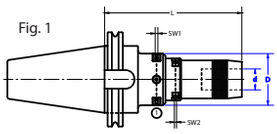


Fig. 2

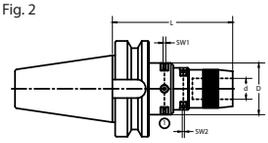
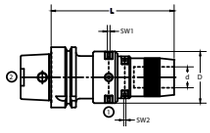


Fig. 3

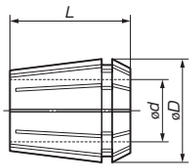


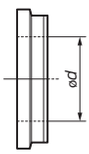
■ Compensation Collet- Chuck

Product Code	⬠	Size	Range	d	D	L	SW
DIN69871 AD/B						Fig. 1	
AND60 40A 32 120	40	ER32	3.0 - 20.0	50	76	120	5
AND60 40A 40 135	40	ER40	3.0 - 26.0	63	76	135	5
AND60 50A 32 120	50	ER32	3.0 - 20.0	50	76	120	5
AND60 50A 40 135	50	ER40	3.0 - 26.0	63	76	135	5
MAS-BT/A						Fig. 2	
ANT60 40A 32 120	40	ER32	3.0 - 20.0	50	76	120	5
ANT60 40A 40 135	40	ER40	3.0 - 26.0	63	76	135	5
ANT60 50A 32 120	50	ER32	3.0 - 20.0	50	76	120	5
ANT60 50A 40 135	50	ER40	3.0 - 26.0	63	76	135	5
DIN69893-HSK-A						Fig. 3	
ANT60 63A 32 120	63	ER32	3.0 - 20.0	50	76	120	5
ANT60 63A 40 135	63	ER40	3.0 - 26.0	63	76	135	5
ANT60 100A 32 120	100	ER32	3.0 - 20.0	50	76	120	5
ANT60 100A 40 165	100	ER40	3.0 - 26.0	63	76	135	5

■ Hyrdo- Compensation Chuck

Product Code	⬠	d	D	L	SW_1	SW_2
DIN69871 AD/B					Fig. 1	
AND65 40A 12 135	40	12	76	135	5	4
AND65 40A 20 135	40	20	69	135	5	4
AND65 40A 32 180	40	32	88	180	6	6
AND65 50A 12 160	50	12	76	160	5	4
AND65 50A 20 160	50	20	69	160	5	4
AND65 50A 32 180	50	32	88	180	6	6
MAS-BT/A					Fig. 2	
ANT65 40A 12 135	40	12	76	135	5	4
ANT65 40A 20 135	40	20	69	135	5	4
ANT65 40A 32 180	40	32	88	180	6	6
ANT65 50A 12 135	50	12	76	135	5	4
ANT65 50A 20 135	50	20	69	135	5	4
ANT65 50A 32 180	50	32	88	180	6	6
DIN69893-HSK-A					Fig. 3	
ANH65 63A 12 135	63	12	76	135	5	4
ANH65 63A 20 135	63	20	69	135	5	4
ANH65 63A 32 180	63	32	88	180	6	6
ANH65 100A 12 135	100	12	76	135	5	4
ANH65 100A 20 135	100	20	69	135	5	4
ANH65 100A 32 165	100	32	88	165	6	6





■ Collet

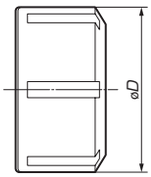
Cat. No.	Size	øD	L
62-25-□□	ER25	26	35
62-32-□□	ER32	33	40
62-40-□□	ER40	41	46

□□□ = ød
Ex. 1: ER25, d=12 ⇨ 62 25 12
These items are in stock in increments of 1 mm:
62-25- □□ from ø12 to ø16 mm
62-32- □□ from ø12 to ø20 mm
62-40- □□ from ø12 to ø26 mm.

■ Seal Disc

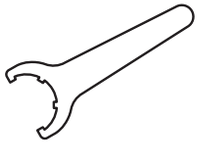
Cat. No.	Size	ød
20.107.41-□□□	ER25	3.0 to 16.0
20.107.51-□□□	ER32	3.0 to 20.0
20.107.61-□□□	ER40	3.0 to 26.0

□□□ = ød
Ex. 1: ER25, d=12 ⇨ 20.107.41 120
These items are in stock in increments of 1 mm:
20.107.41- □□□ from ø12 to ø16 mm
20.107.51- □□□ from ø12 to ø20 mm
20.107.61- □□□ from ø12 to ø26 mm.



■ Collet Cap

Cat. No.	Size	D	ød
20.107.410	ER25	42	M32 x 1.5
20.107.510	ER32	50	M40 x 1.5
20.107.610	ER40	63	M50 x 1.5



■ Tightening Wrench

Cat. No.	Size
00-05-05	ER25
00-05-02	ER32
00-05-03	ER40

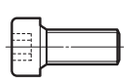
■ Torque Wrench

Wrench Cat. No.	Applicable Holder	Torx Hole	Torque Rating
G00-40-11	SR□ 16 / SR□ 19	T 6	0.9Nm
G00-40-12	SR□ 24 to SR□ 61	T 8	1.5Nm
G00-40-13	SR□ 81 / SR□ 101	T 15	3.5Nm

■ Coolant Tubes

Taper Size	
40	H00-40-01
63	H00-63-01
100	H00-100- 01

■ Spare Parts

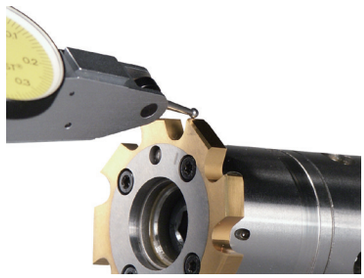


C00-96-16

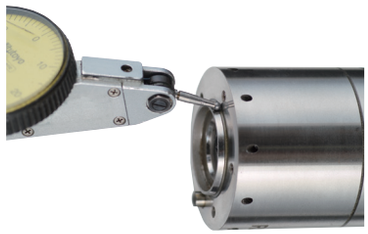
■ SR Type Reamer Usage Instructions (Adjusting runout)

The runout at the cut edge of a reamer should be zero to obtain optimum boring precision. To correct runout in the holder or the machine's spindle, use of holders with a correction mechanism, hydro chucks, and shrink-fitting is recommended. Various methods can be used to measure runout on an SR type reamer. SR type reamers offer good runout repeatability so it is recommended that inserts be replaced without removing the shank holder from the spindle.

(1) High-accurate cutting edge runout measurement method (for measuring the arc land on the insert)
Measuring the lands immediately after the outer diameter of the insert has been chamfered eliminates all attachment errors. This allows for the most accurate runout measurement.



(2) Simplified measurement method (for measuring the short taper of the holder)
The short taper on the holder where the inserts are attached provides the easiest and most accurate measurement before attaching the inserts.



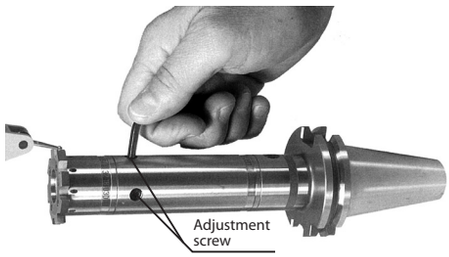
(3) Simplified measurement method (for measuring the outer diameter of the holder)
The high precision machined outer diameter of the shank holder provides a good estimate of the runout measurement.

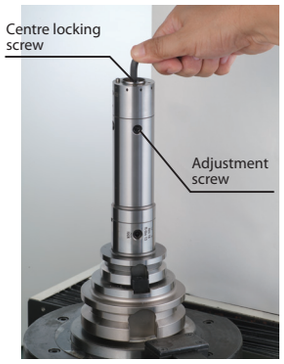
* Runout accuracy is higher in order of (1), (2) and (3).

■ Shank Holders with Correction Mechanism

Shank holders must have a correction mechanism when using reamers of ø35 mm or larger.
(Adjustment procedure)

(1) Tighten the centre locking screw to torque value A in the table below, then attach the insert and measure the runout of the cut edge.
(2) Verify the tooth where runout peaks and adjust with the adjustment screw.
(3) Repeat this adjustment for each tooth as necessary.
(4) Remove the adjusted insert, tighten the centre locking screw to torque value B in the table below, then re-attach the insert.

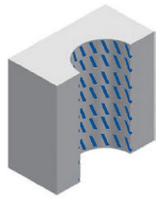
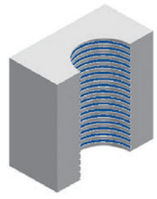


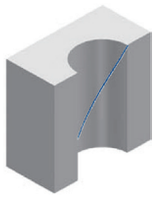
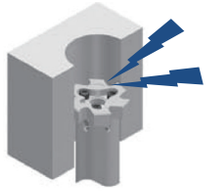


Recommended Tightening Torque for Center Locking Screw (N·m)

Size	A	B
SR044	25	32
SR052	25	32
SR061	40	55
SR081	65	85
SR101	95	120

■ Troubleshooting for Drilling

Failure	Countermeasures
Large Hole Diameter 	-Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). -Decrease the cutting speed. -Increase the feed rate. -Increase the coolant concentration. -Reduce the machining allowance. -Check the cutting edge for damage (the existence of built-up edges). -Change the reamer diameter.
Tapered Hole 	-Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). -Decrease the cutting speed. -Decrease the feed rate. -Adjust the coolant concentration. -Review the pre-machining process. -Review the clamping method of the workpiece. -Compare the hole size between when the workpiece is clamped and unclamped. -Check and correct the direction of chip evacuation.
Chatter Mark on Machined Surface 	-Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). -Change the approach angle of the insert cutting edge. -Review the clamping method of the workpiece. -Decrease the cutting speed. -Increase the feed rate.
Poor Surface Roughness 	-Check the cutting edge for damage. -Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). -Check whether the cutting conditions are within the recommended range. -Change to internal coolant supply. -Increase the coolant concentration.

Failure	Countermeasures
Return Mark 	-Reduce the run-out as much as possible -(use a holder with a diameter correction mechanism). -Check the cutting edge for damage (the existence of built-up edges). -Reduce the machining allowance. -Change to an insert with a sharper cutting edge. -Decrease the return (lifting) feed.
Irregular Cutting Noise 	-Decrease the coolant concentration. -Increase the machining allowance. -Check the cutting edge for damage. -Change the approach angle of the insert cutting edge.
Small Hole Diameter 	-Replace the insert. -Decrease the coolant concentration. -Increase the machining allowance. -Increase the cutting speed. -Decrease the feed rate.